

**Tennessee.**—Chattanooga: snow was reported to have fallen on Lookout mountain during the morning of 22d.

**Utah.**—Salt Lake City, 2d.

**West Virginia.**—Helvetia, 22d.

**Wyoming.**—Fort Bridger, 2d, 29th; Cheyenne, 2d, 3d, 9th, 25th, 29th; Fort Washakie, 2d, 12th, 28th, 29th.

#### LARGEST MONTHLY SNOWFALLS.

[Expressed in inches.]

The following are the largest monthly snowfalls reported from the various states and territories during the month:

**California.**—Cisco, 55; Emigrant Gap, 33; Summit, 33.

**Colorado.**—Pike's Peak, 36 on the ground at end of the month, 28 of which fell during the month of May; Fort Lewis about 7; Fort Garland about 4.

**Dakota.**—Deadwood, about 30; Huron, 6.7.

**Indiana.**—Griffin's station, about 4; Rising Sun, 3.

**Montana.**—Helena, 5.7; Fort Maginnis, 6.2.

**Nevada.**—Truckee, 9.5; Boca, 6; Toana, 5.

**New Hampshire.**—On the summit of Mount Washington, 6.4, trace remaining on the ground at end of the month.

**Ohio.**—Toledo, 6.

**Wyoming.**—Fort Washakie, 16; Cheyenne, about 9; Fort Bridger, 7.8.

#### SLEET.

Fort Brady, Michigan, 2d, 10th.

Fort Niobrara, Nebraska, 3d.

North Lewisburg, Ohio, 21st.

Toledo, Ohio, 21st.

Saint Paul, Minnesota, 2d.

Mount Washington, New Hampshire, 5th to 8th, 10th to 24th, 25th.

Fort Totten, Dakota, 6th.

#### COTTON REGION REPORTS.

Temperature and rainfall observations in the cotton districts were continued during the month of May, 1883. The averages for the various districts, as determined from the observations made by the stations published in the REVIEW for April, 1882, are given in table below.

*Meteorological Record of the Cotton Districts for the month of May, 1883.*

| Districts.       | Average rainfall in inches. | Temperature.        |                     | Extremes. |         |
|------------------|-----------------------------|---------------------|---------------------|-----------|---------|
|                  |                             | Mean of the maxima. | Mean of the minima. | Highest.  | Lowest. |
| New Orleans..... | 3.95                        | 84.8                | 62.9                | 100       | 30      |
| Savannah.....    | 3.60                        | 84.4                | 59.3                | 97        | 32      |
| Charleston.....  | 5.06                        | 82.7                | 57.8                | 90        | 40      |
| Atlanta.....     | 2.58                        | 80.7                | 56.5                | 92        | 34      |
| Wilmington.....  | 2.33                        | 82.0                | 54.6                | 92        | 33      |
| Memphis.....     | 4.59                        | 80.3                | 55.4                | 93        | 37      |
| Galveston.....   | 2.18                        | 86.6                | 66.2                | 99        | 42      |
| Vicksburg.....   | 2.63                        | 82.8                | 59.4                | 95        | 38      |
| Montgomery.....  | 2.60                        | 84.2                | 56.0                | 94        | 31      |
| Augusta.....     | 2.70                        | 83.5                | 59.1                | 95        | 31      |
| Little Rock..... | 4.24                        | 82.0                | 54.6                | 93.3      | 33      |
| Mobile.....      | 2.94                        | 85.3                | 58.6                | 98        | 30      |

#### WINDS.

The prevailing directions of the wind for the month of May, 1883, at the Signal-Service stations are shown on chart iii. by arrows flying with the wind. On the California coast, the prevailing winds were westerly; in the north Pacific coast region, northerly; in the Gulf states, southerly and southeasterly; along the Carolina coast, southwesterly, except northeast at Kittyhawk; on the middle Atlantic coast, easterly and southerly; New England coast, southerly and southwesterly; lower lake region, westerly; in the upper lake region, upper Mississippi and Missouri valleys, they were mostly from the north and northwest.

#### TOTAL MOVEMENTS OF THE AIR.

In the following table are given the stations reporting the largest and smallest total movements of the air in each of the various districts:

| Districts.                    | Stations reporting largest. | Miles. | Stations reporting smallest. | Miles. |
|-------------------------------|-----------------------------|--------|------------------------------|--------|
| New England.....              | Block Island, R. I.....     | 9,725  | New London, Conn.....        | 4,557  |
| Middle Atlantic states.....   | Del. Breakwater, Del.....   | 11,980 | Lynchburg, Va.....           | 3,496  |
| South Atlantic states.....    | Hatteras, N. C.....         | 13,978 | Augusta, Ga.....             | 2,801  |
| Florida peninsula.....        | Punta Rassa.....            | 7,264  | Sanford.....                 | 4,105  |
| East Gulf.....                | Starkville, Miss.....       | 6,327  | Montgomery, Ala.....         | 3,591  |
| West Gulf.....                | Indianola, Tex.....         | 10,838 | Little Rock, Ark.....        | 4,325  |
| Ohio valley.....              | Louisville, Ky.....         | 6,818  | Pittsburg.....               | 3,968  |
| Tennessee.....                | Nashville.....              | 5,549  | Chattanooga.....             | 4,549  |
| Lower lakes.....              | Rochester, N. Y.....        | 9,667  | Cleveland, Ohio.....         | 6,783  |
| Upper lakes.....              | Milwaukee, Wis.....         | 9,653  | Marquette, Mich.....         | 6,532  |
| Extreme northwest.....        | Moorhead, Minn.....         | 9,227  | Saint Vincent, Minn.....     | 6,857  |
| Upper Mississippi valley..... | Saint Louis, Mo.....        | 9,362  | Dubuque, Ia.....             | 4,023  |
| Missouri valley.....          | Huron, Dak.....             | 8,944  | Omaha, Neb.....              | 6,626  |
| Northern slope.....           | North Platte, Neb.....      | 9,488  | Deadwood, Dak.....           | 2,846  |
| Middle slope.....             | Fort Elliott, Texas.....    | 11,728 | Denver, Colo.....            | 4,883  |
| Southern slope.....           | Fort Concho, Texas.....     | 8,119  | Colman City, Texas.....      | 6,918  |
| Southern plateau.....         | Santa Fe, N. M.....         | 9,362  | Tucson, Ariz.....            | 3,215  |
| Middle plateau.....           | Pioche, Nev.....            | 6,412  | Salt Lake City, Utah.....    | 3,350  |
| Northern plateau.....         | Eagle Rock, Idaho.....      | 7,252  | Lewiston, Idaho.....         | 2,481  |
| North Pacific.....            | Portland, Oregon.....       | 4,284  | Olympia, Wash. T.....        | 1,408  |
| * Middle Pacific.....         | San Francisco, Cal.....     | 7,176  | Sacramento, Cal.....         | 5,207  |
| South Pacific.....            | San Diego, Cal.....         | 5,086  | Visalia, Cal.....            | 3,102  |

\* No record at Cape Mendocino, Cal.

On the summits of Mount Washington, New Hampshire, and Pike's Peak, Colorado, the total movements of the air were 25,410 and 16,762 miles, respectively.

#### HIGH WINDS.

On the summit of Mount Washington, maximum velocities of fifty miles per hour or more were of daily occurrence, with the exception of the 1st, 4th, 5th, 15th, 18th, and 21st. The highest velocities recorded at this station as follows: 78 nw., 8th; 76 nw., 9th; 84 sw., 10th; 90 nw., 11th; 76 nw., 13th; 76 sw., 29th; maximum for the month, 96 sw., 31st. The following high velocities were reported from Pike's Peak, Colorado: 68 sw., 1st; 52 nw., 4th; 64 sw., 5th; 51 sw., 6th; 78 sw., 8th (maximum for month); 52 nw., 23d; 58 sw., 24th; 50 nw., 26th; 56 nw., 27th; 56 nw., 28th; 64 n., 31st.

Other stations reporting velocities of fifty miles or more per hour, are as follows: Fort Assiniboine, Montana, 52 w., 31st; Mackinaw City, Michigan, 52 e., 10th; Delaware Breakwater, Delaware, 50 n., 15th; Hatteras, North Carolina, 56 ne., 2d; Portsmouth, North Carolina, 64 ne., 2d.

#### LOCAL STORMS.

The most violent local storms and tornadoes of the month occurred in connection with the passages of the barometric depressions traced as numbers v. and vi. on chart i. Those which were associated with number v. were most violent in eastern Kansas and Missouri, and occurred on the afternoon of the 13th, while the centre of depression was near central Nebraska. The tornadoes occurring in connection with number vi. were numerous and severe. They occurred during the afternoon and evening of the 18th in the states of Illinois, Indiana, Iowa, Missouri, and Wisconsin. The barometric depression mentioned in connection with these storms, which are described in detail under "areas of low-pressure," were traced as follows:

Number v. was central in eastern Colorado on the morning of the 13th, and moved in an easterly direction, disappearing off the middle Atlantic coast on the afternoon of the 15th. Number vi. was first located near central Wyoming on the morning of the 17th; it moved northeastward over the upper lakes and Canadian provinces, and was last observed on the morning of the 21st over the Gulf of St. Lawrence.

Brief description of the local storms and tornadoes of May, 1883, are given below, under the heading of the various states in which they occurred.

**Alabama.**—A storm of great violence passed to the north and west of Headland, Henry county, during the evening of the 20th, destroying a number of buildings and blowing down many trees and fences.

**Arkansas.**—Eureka Springs, Carroll county, 18th: a tornado occurred during the evening of this date, first striking a point about five miles southeast of this place, where it cut a path, one-fourth of a mile in width, through a dense forest, and destroyed several buildings.